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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,302	05/25/2006	Roland Heckenthaler	02894-729US1 06721-PT22	4464
26161	7590	12/24/2009	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			HINZE, LEO T	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No. 10/554,302	Applicant(s) HECKENTHALER ET AL.	
	Examiner LEO T. HINZE	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,7,8,10-14,17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,7,8,10-14,17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 November 2009 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 4, 7, 8, 10-14, 17, and 19-21 have been considered but are moot in view of the new ground(s) of rejection.

a. Applicant argues on p. 8 that the temperature range for die heating taught by Leyland does not overlap the claimed range of 200-220 °C. The examiner disagrees. Leyland teaches that the apparatus is capable of heating the die in a range of 200-300 °C. While the Leyland process may work best at 260-300 °C with the particular plastics used, one having ordinary skill in the art would realize the term "plastic" does not refer to a single, homogeneous material. Instead "plastic" encompasses a wide range of materials, each with different material properties, including melting temperature. It certainly would be within the skill of one having ordinary skill in the art to adjust the apparatus of Leyland to match the material properties of the particular plastic being used, within the 200-300 °C temperature range.

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b. In response to applicant's argument on pp. 8-9 that the combination of Leyland, Wickwire, and Horton does not specifically teach the advantages asserted by Applicant, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 7, 8, 10-14 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leyland et al., US 4,893,555 A (hereinafter Leyland) in view of

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Horton, US 3,817,172 A (hereinafter Horton) and Wickwire, Jr. et al., US 2,306,256 A (hereinafter Wickwire).

a. Regarding claims 1, 14, and 21:

Leyland teaches a plastic surface printing method comprising: providing a metallic hot-stamping tool (16, Fig. 1) with a stamping surface using a heating device ("heated die 16," col. 2, l. 46), preheating a work piece surface, of a plastic work piece (12, Fig. 1) to be printed (heat generated by the cartridge heater 44 is transferred to the peripheral surface of the plastics odometer wheels 12," col. 3, ll. 48-50); and using the stamping surface to press a carrier foil (24, Fig. 1) against a surface of the work piece such that a pigment layer is transferred from the carrier foil onto the work piece ("the pigment on the printing tape 24 is transferred from the printing tape to the peripheral surface of the plastics odometer wheel to print the numbers thereon," col. 3, ll. 20-22) wherein the work piece surface to be printed is preheated to a temperature between 30 °C and 60 °C; and wherein the stamping surface is preheated to a temperature of between 140 °C and 240 °C ("heated die 16 normally operates at temperatures in excess of 200 °C, and is usually set to operate at a temperature between 260 °C and 300 °C," col. 1, ll. 53-56; this encompasses a range between 200 °C and 300 °C); wherein preheating the work piece surface comprises: sensing a characteristic of the work piece surface, wherein the characteristic is selected from the group consisting of color, roughness, and material type (one having ordinary skill in the art uses their senses to sense the characteristics of the work piece); and using data indicative of the sensed characteristic in an evaluation device (the user) that subsequently adjusts a

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heating power of the heating device based, at least in part, on the characteristic data (the user adjusts the heating power based on their sensory perception of the work piece).

Leyland does not teach a metallic hot-stamping tool with a plastic-coated outer stamping surface, or wherein the work piece surface to be printed is preheated to a temperature between 80 °C and 120 °C.

Horton teaches a metallic hot-stamping tool with a plastic-coated outer stamping surface (2, 1; “the flexible resilient die portion is preferably formed of a high-temperature resistant silicone rubber material,” col. 1, ll. 45-47). The rubber surface allows the die to conform to the surface to be printed (col. 1, ll. 19-25).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Leyland to include a plastic-coated outer stamping surface as taught by Horton, because this would allow the die to conform to the surface of the article to be printed.

Wickwire teaches the hot stamping of plastic objects (col. 1, lines 1-2), wherein the object is heated to between 54 °C and 121 °C (col. 4, lines 10-12). These preheating temperatures help obtain satisfactory stamping with minimum spoilage (col. 1, lines 43-48).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Leyland wherein the work piece surface to be printed is preheated to a temperature between 80 °C and 120 °C, because Wickwire teaches

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that it is known to heat work pieces to these temperatures to obtain satisfactory stamping with minimum spoilage.

b. Regarding claim 7, the combination of Leyland, Horton, and Wickwire teaches the method according to claim 1 as discussed in the rejection of claim 1 above. The combination of Leyland, Horton, and Wickwire also teaches wherein the preheated work piece surface comprises a surface capable of use as a plastic toothbrush (Leyland: "other plastics substrates beside plastics odometer wheels," col. 4, lines 36-40).

c. Regarding claim 8, the combination of Leyland, Horton, and Wickwire teaches the method according to claim 7 as discussed in the rejection of claim 7 above. The combination of Leyland, Horton, and Wickwire also teaches wherein the work surface consists of a thermoplastic plastic (Leyland: "any suitable plastics material," col. 4, lines 36-40, "any plastics material" includes thermoplastics).

d. Regarding claim 10, the combination of Leyland, Horton, and Wickwire teaches the method according to claim 1 as discussed in the rejection of claim 1 above. The combination of Leyland, Horton, and Wickwire also teaches wherein the hot-stamping tool is coated with a silicon layer (Horton: "the flexible resilient die portion is preferably formed of a high-temperature resistant silicone rubber material," col. 1, ll. 45-47).

e. Regarding claims 11, 12, and 19, the combination of Leyland, Horton, and Wickwire teaches the method according to claims 10 and 14 as discussed in the rejection of claims 10 and 14 above. The combination of Leyland, Horton, and Wickwire also teaches wherein the silicone layer has a thickness between 2 and 3 mm (Horton: "the die is 0.75 to 3 mm thick," col. 4, l. 25).

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f. Regarding claims 13 and 20, the combination of Leyland, Horton, and Wickwire teaches the method according to claims 1 and 14 as discussed in the rejection of claims 1 and 14 above. The combination of Leyland, Horton, and Wickwire also teaches wherein the stamping surface is preheated to a temperature between 200 °C and 220 °C (Leyland: “heated die 16 normally operates at temperatures in excess of 200 °C, and is usually set to operate at a temperature between 260 °C and 300 °C,” col. 1, ll. 53-56; this encompasses a range between 200 °C and 300 °C, and one having ordinary skill in the art would know that the temperature would need to be adjusted for each type of plastic being used, to avoid overheating the plastic).

6. Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leyland in view of Horton and Wickwire as applied to claims 1 and 14 above, and further in view of Colledge, US 3,791,290 A (hereinafter Colledge).

a. Regarding claims 4 and 17:

The combination of Leyland, Horton, and Wickwire teaches the method according to claims 1 and 14 as discussed in the rejection of claims 1 and 14 above. The combination of Leyland, Horton, and Wickwire also teaches wherein the work piece heater is a cartridge heater (Leyland: 44, Fig. 3).

The combination of Leyland, Horton, and Wickwire does not teach wherein preheating the work piece surface is heated by means of an infrared lamp or a fan heater.

Colledge teaches a heating means for a work piece that is either an electric resistance coil or an infra-red lamp (col. 1, ll. 33-34).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to further modify Leyland to supplement the electric heater with an infrared heater, because Colledge teaches that these are known equivalents, and one having ordinary skill in the art may find more flexibility in using an IR heater that does not need to touch the work piece to heat it.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is 571.272.2864. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571.272.2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leo T. Hinze
Patent Examiner
AU 2854
14 December 2009

/Judy Nguyen/
Supervisory Patent Examiner, Art Unit 2854